

The Pyongyang Times

Democratic People's Republic of Korea

No. 3 (3 039) weekly

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Sat, January 19, Juche 108(2019)

ANNIVERSARY

National meeting highlights anniversary of militia

A national meeting was held at the People's Palace of Culture on January 14 to mark the 60th founding anniversary of the Worker-Peasant Red Guards, revolutionary armed force of the Workers' Party of Korea.

President Kim Il Sung mapped out a far-reaching plan for arming all the people and founded the Worker-Peasant Red Guards on January 14 1959.

The meeting was attended by Choe Ryong Hae, member of the Presidium of the Political Bureau of the WPK Central Committee, vice-chairman of the DPRK State Affairs Commission and vice-chairman of the WPK Central Committee, Choe Pu Il, minister of People's Security, Kim Nung O, chairman of the WPK Pyongyang Municipal Committee, Ri Yong Rae, department director of the WPK Central Committee, officials of civilian defence forces, leading personnel and members of the Worker-Peasant Red Guards in Pyongyang including those of ministries and national agencies.

Also present

there were officials of military organs including Army General Ri Yong Gil, chief of the General Staff of the Korean People's Army.

Choe Ryong Hae, in his keynote speech, said that as Kim Il Sung founded the WPRG, the all-people and nationwide defence system with the KPA as the core was established and a steadfast guarantee was provided to firmly defend the sovereignty and dignity of the country and nation and vigorously accelerate socialist construction.

The WPRG which was firmly prepared as reliable revolutionary armed force of the WPK, together with the KPA, has fulfilled its mission and duty in every rigorous decade while smashing the enemies'

vicious moves to start a new war, he noted.

He recalled that the leading WPRG officials and members who firmly held rifle in one hand and hammer, sickle or writing brush in the other performed brilliant labour feats in the struggle for realizing the patriotic desire of President Kim Il Sung and Chairman Kim Jong Il for building a powerful country.

He called on them to bear unshakeable confidence in final victory and burning patriotism and fulfil their honourable mission and duty in the campaign for defending the country and building a socialist power under the leadership of the great Party.

Compiled from KCNA



A national meeting takes place at the People's Palace of Culture in Pyongyang to mark the 60th anniversary of the Worker-Peasant Red Guards.

ELECTRICITY

Power producers boost production

The electric-power industry is waging a campaign for increased production to make a breakthrough in revitalizing the economy.

The Pukchang Thermal Power Complex runs the generating facilities installed last year as required by the standard regulations of operation including the technical ones while ensuring the full operation of all generators.

The Pyongyang Thermal Power Station exceeds its daily production plan by scrupulously commanding production between shifts, ensuring the scientific

operation of thermal equipment and increasing the output of each turbine generator in heat production units which are in charge of the major processes of power generation.

The Sunchon Thermal Power Station overfulfils the production plan every day by more than 30 percent.

Hydropower producers carried out their plans for the first ten days of January at 102.7 percent.

The Paektusan Hero Youth Power Station and Jangjagang, Huichon and Thaechon power stations continue to increase production by running generating

facilities at full capacity. The Suphung, Kanggye Youth and Wiwon power stations generate more electricity while conserving water in a more scientific way to meet winter conditions. The Hochongang, Kumyagang and Taedonggang power stations coordinated the management of equipment and technology and conducted the checking of equipment in a regular way to ensure the stability of power generation, which contributed to hitting their targets.

Similar successes are made in the hydroelectric power stations in North Hamgyong Province.

MEDIA

Supreme Leader's China visit hits world headlines

DPRK Supreme Leader Kim Jong Un's China tour grabbed the world headlines between January 8 and 11.

China's Xinhua reported that talks were held between Kim Jong Un, chairman of the Workers' Party of Korea and chairman of the DPRK State Affairs Commission, and President Xi Jinping, who is also general secretary of the Central Committee of the Communist Party of China.

The leaders of the two countries had an in-depth exchange of views on bilateral relations and matters of common concern in a friendly and amicable atmosphere and shared a significant common understanding, it said. Both sides agreed to promote the new development of bilateral relations in the new era without letup and make concerted efforts to properly manage the Korean peninsula situation and ensure regional peace and stability, it noted.

Referring to the fact that the DPRK leader visited China for the fourth time, *The New York Times* said that the international community expects peaceful dialogue to be held for the settlement of the Korean peninsula issue and a rare, historic opportunity has been offered for the political settlement of the peninsula issue.

China's CCTV and many other broadcasting stations and

networks, Russia's TASS and over 100 media outlets as well as those of Mongolia, Laos, India, Pakistan, Singapore, Nepal, Japan, Kuwait, Bulgaria, France, Uganda and other countries gave wide coverage to the news under such titles as "Supreme Leader Kim Jong Un visits China", "DPRK Supreme Leader goes to China" and "DPRK, China reach consensus on many issues".

The DPRK leader's departure for Beijing, arrival in Pyongyang, and other details of the news were reported by newspapers, news agencies, broadcasting stations and websites of all countries. They included Cuba's Prensa Latina, Syria's SANA, Iran's news agencies, newspapers and broadcasting stations, Cambodian National TV, Thai newspaper *The Bangkok Post*, Indonesia's internet newspaper *Tempo*, Myanmar's newspaper *The Global New Light of Myanmar*, Czech news agency and internet news agency, France's AFP, Germany's DPA, the UK's BBC, Ethiopian news agency, Egyptian papers, the website of the National Committee for the Study of the Juche Idea of the Democratic Republic of Congo, the US' AP, UPI and *The Washington Post*, and Venezuela's Telesur and VTV.

Compiled from KCNA

regulations.

The Puryong Power Station ensures full operation of generators as it conserves water scientifically and repairs its dam and water intakes in a qualitative way.

Orangchon Power Station Units 1, 2 and 5 ensure normal production at a high level.

By Jong Hwa Sun PT



O CHOL HUN / RODONG SINMUN
The Sunchon Limestone Mine carries out an 80 000-cubic-metre blasting in an effort to rev up production.

SLOGAN

Clarion call for this year

Supreme Leader Kim Jong Un, in his New Year Address, set forth militant slogan 'Let us open a new road of advance for socialist construction under the uplifted banner of self-reliance!'

The slogan embodies the philosophy that self-reliance is the only way for the Korean people to protect their independent dignity and life and bring earlier the rosy future.

In retrospect, self-reliance has always been a banner of struggle and driving force for a leap forward in the whole course of the Korean revolution.

A priceless creation of the anti-Japanese revolution, the spirit of self-reliance served as a banner of a new Korea building for the locals after liberation and it effected the Chollima upsurge on the debris after the Korean war. The grand march of self-reliance of the Koreans who startled the world by making tractors and electric locomotives by their own efforts turned the DPRK into a socialist state which is independent, self-supporting and self-reliant in defence and performed miracles unprecedented in national history despite all manner of trials and hardships.

Inexhaustible development potentials of socialist Korea which cannot be estimated with any existing formulas, notions and economic figures originate from self-reliance.

The Korean people experienced through their actual life that self-reliance is the only way to defend the dignity of the country and nation and achieve genuine development and prosperity.

The slogan also pulsates with the firm will of the Workers' Party of Korea to bring about a revolutionary upsurge on all fronts of socialist construction by relying on the country's capability of independent development.

Last year, the Korean people gave full play to the inexhaustible might of self-development, true to a new strategic line of concentrating all efforts on economic construction.

Marked progress was made in the efforts to put the national economy on a Juche and modern basis, a drive for increased production launched and gigantic construction projects including the Wonsan-Kalma coastal tourist area pushed on a grand scale, demonstrating the stout mettle of socialist Korea that achieves victory after victory in the face of any adversity by surging forward more forcefully.

These achievements made last year are the proud fruition brought about by the inexhaustible potentials of the self-supporting economy and the revolutionary and creative spirit of self-reliance.

Thanks to the Korean people's indomitable fight against the challenge of injustice, the state's might of self-development has increased on a steady basis and the cause of building a powerful socialist country is progressing at a faster pace.

The shortcut to achieving greater advance and leap forward and ensuring a sustainable development of the national economy this year lies in self-reliance and self-sufficiency.

Self-reliance and self-development is the road the Koreans have chosen by themselves and it is their unshakeable will to demonstrate the invincible might of the country by relying on their own efforts, technology and resources.

The Korean people are now out in the campaign to open a new road of advance for socialist construction upholding the militant slogan set forth by the Supreme Leader.

By Ri Sang Il PT

INSPECTION

Premier visits various units in Sunchon area

Premier Pak Pong Ju, member of the Presidium of the Political Bureau of the Central Committee of the Workers' Party of Korea and vice-chairman of the DPRK State Affairs Commission, inspected different units in the Sunchon area.

Looking round the Sunchon Cement Complex, he gave a pep talk to its workers in the drive for increased production to supply more cement to the sites of the grand socialist construction in hearty response to the New Year Address of Supreme Leader Kim Jong Un.

A consultative meeting discussed the issues of keeping

the equipment in full-capacity operation and shortening the period of repairing revolving furnace by scrupulously managing equipment and improving technical control.

At the consultative meetings held after the inspection of the Sunchon Phosphate Fertilizer Factory under construction and the construction site of the project for the foundation of C1 chemical industry, he underlined the need to build the phosphate fertilizer factory as a model in the chemical industry, thoroughly carry out the phased tasks for the establishment of the C1 chemical industry by making the most effective

RALLIES

Nation vows to implement tasks set forth in New Year Address

The Korean people got together for mass rallies in provinces and cities under direct jurisdiction of the government to express their determination to implement the tasks set forth by Supreme Leader Kim Jong Un in his New Year Address.

Such an event in Pyongyang took place at Kim Il Sung Square.

Seen on the platform were Premier Pak Pong Ju, who is also member of the Presidium of the Political Bureau of the Central Committee of the Workers' Party of Korea and vice-chairman of the DPRK State Affairs Commission, other senior Party and government officials, and officials of Party and government organs, industrial establishments and cooperative farms and persons of labour feats in Pyongyang.

Kim Nung O, alternate member of the Political Bureau of the WPK Central Committee and chairman of the Pyongyang Municipal Party Committee, addressed the rally.

He described the Supreme Leader's New Year Address as a militant banner that has redoubled the Korean people's confidence in victory and optimism for a brighter future of socialism and indicated the path for bringing about a revolutionary upsurge on all fronts of socialist construction.

use of the existing production foundations and take thorough measures to provide materials for the relevant units.

Prior to the visits, he inspected



Pyongyang citizens vow at Kim Il Sung Square to implement the tasks Supreme Leader Kim Jong Un set forth in his New Year Address.

He called for striving for the prosperity and development of the socialist country, rallying closer around the great Party.

Kim Phyong Hun, manager of the Kangdong Area Coal-mining Complex, said they would conduct a positive campaign for high-speed tunnelling and introduce efficient machinery and equipment in order to put coal production on normal track.

Kim Myong Hwa, chairwoman of the Hyongjesan District Cooperative Farm Management Committee, said they would introduce high-yielding varieties of crops and advanced farming methods and techniques by holding fast to Party policies of radically improving seeds and doing scientific farming as their lifeblood.

Jong Il Chol, department chief of the Automation Faculty of Kim Chaek University of Technology, said they would improve their teaching qualifications and sense of

responsibility, channel big efforts into political and ideological education and innovate teaching content and method, in order to train students as revolutionary, innovation-oriented talents who only care for the Party, revolution, country and people and shoulder social and economic development with great research and application abilities.

Pak Sun Il, first secretary of the Pyongyang Municipal Committee of the Kimilsungist-Kimjongilist Youth League, said young people would become pioneers of new technology, creators of new culture and pathfinders for a great leap forward.

The rally adopted a resolution, followed by a public procession.

Similar meetings were held in such provinces as North Phyongan, South Hwanghae and South Hamgyong.

The keynote speaker at the South Hamgyong provincial rally said that chemical and machine-building industrial sectors would step up the efforts to put production processes on Juche and modern basis and all light industry factories would strive to modernize production lines, obtain at home everything needed for production and improve quality.

At the South Hwanghae provincial rally the main speaker said that they would fulfil this year's plan for cereal production without fail by raising a wave of scientific farming and conducting a high-yield drive and increase the production of livestock products, fruits, greenhouse vegetables and mushroom so that the people can enjoy actual benefits.

The youth league, trade union, agricultural workers' union and different economic sectors and units also held similar meetings.

Compiled from KCNA



Premier Pak Pong Ju (first from right) learns about the construction of the Sunchon Phosphate Fertilizer Factory.

By Pak Song Min PT

LEADING ARTICLE

Young people at the forefront of socialist construction

January 17 is the 73rd anniversary of the founding of the Kimilsungist-Kimjongilist Youth League, a mass organization of the Korean young people.

It has already been over 70 years since the youth across the country worked hard for the building of a new Korea after its liberation from Japanese military rule, closely united behind the Democratic Youth League under the slogan "Patriotic young people, unite under the banner of democracy!"

Commemorating the anniversary, young people are filled with a heightened zeal and spirit to add glory to the history and tradition of the Korean youth movement.

In the periods of postwar reconstruction and grand socialist construction they volunteered one after another to carry out the difficult and labour-consuming tasks and played a vanguard and shock brigade's role in hearty response to the call of the Workers' Party of Korea.

During the Arduous March and forced march, they performed heroic feats everywhere they went with an indomitable will and courage and fully displayed

the mettle of Korean youth in the campaign to defend socialism.

Today they are showing off their might as masters of the youth power under the wise leadership of Supreme Leader Kim Jong Un who adds glory to the history and tradition of attaching importance to youth.

They play their part in every difficult and labour-consuming unit and field for socialist construction, performing fresh miracles and feats in their workplaces.

The youth shock brigade members who were involved in the construction of the Paektusan Hero Youth Power Station had to overcome the most unfavourable natural and geographical conditions in the history of hydropower station construction of the country. But they built dams across the valleys in high and rugged remote mountains in the face of biting cold in the northern highland, demonstrating once again the indomitable spirit and inexhaustible strength of the Korean youth.

Still, lots of monumental structures shining with the name of "youth" tell stories about the brilliant feats performed by young people.

Young scientists staged an intensive campaign to develop science and technology and acquire high technology with a vision of the world and national pride to open the way to space exploration, achieve eye-opening successes of breaking through the cutting edge and work fresh miracles of changing the looks of the country every day and every hour.

Today millions of young Korean people perform feats in the revolutionary spirit of self-reliance and by dint of science and technology in all sectors of the national economy with a firm will to fulfil their mission as vanguard at the posts at which the Workers' Party of Korea wants them to be.

The youth shock brigade, youth workteam and youth sub-workteam movements are now in full swing across the country, making the country seethe with activities of

young people.

Many stories are also told about all those virtues showing the noble mentality of young people who regard it as their pleasure to devote themselves to society and the collective and find it well worth their while to carry out the intention of the WPK.

Last year saw dozens of graduates of Chongjin University of Agriculture volunteering to work on the Onpho greenhouse farm and at the provincial tree



By Jong Sun Bok PT

RI SONG IK / KOREA TODAY

Young people march in a procession, demonstrating their will to go straight forward following the Party.

FUEL

Employees pool their wisdom to upgrade production process

The Rangnang District Fuel Service Station on Thongil Street, Pyongyang, is known as a national model in the field of fuel supply for residents.

Its employees have recently completed the modernization of the production process of quick-ignition briquette.

All its production processes have been automated and put on production line and they are operated under an integrated manufacturing control system.

All the techniques which have been introduced into the production processes are the products of the wisdom and ideas of the employees.

Among them are a scraper conveyor and coal pulverizer.

The scraper conveyor enables one operator to deal with coal nine times the previous amount per hour.

The coal pulverizer grinds coal so finely it does not pass out coarse coals which were always seen in the past.

The employees also remodelled the mixing process to reduce the previous 24 hours of settling work to 20 seconds, and manufactured the rollers of the assembly line measuring

hundreds of metres long.

The conveyor and pulverizer were awarded invention gold and silver medals respectively at the 16th national inventions exhibition held in August last year.

"As we introduced advanced science and technology, the fuel output has increased 2.5 times and the quality of products far more than previously. The work which was done by dozens of employees previously is now carried out by some process monitors and one computer operator," said Kim Hui Ok,

manageress of the station who is winner of the February 16 Science and Technology Prize.

The station honoured with the title of model technical innovation unit twice has obtained dozens of certificates of national sci-tech hits registration, sci-tech feats, inventions and original plans at the sci-tech festivals, inventions exhibitions and sci-tech presentations and exhibitions which have been held in recent years on a nationwide scale.

By Kil Chung II PT



PAK CHANG BOK / THE PYONGYANG TIMES
Employees of the Rangnang District Fuel Service Station consult to set up a reasonable production process.

EQUIPMENT

Dry-type transformer performs well

At present, it is the global trend to develop power transformers capable of minimizing the loss of electricity, automating operation and protection and meeting the requirements of environmental protection and industrial aesthetics.

A new type of energy-saving power transformer which meets such standards has been introduced into many units.

Dozens of units which installed the new-type transformer highly appreciate it.

This efficient transformer, called dry-type one, is produced by the Taean Electrical Appliances Factory under the Taean Heavy Machine Complex.

Former transformers made dull and deep noise, caused no-load losses when in use and were massy since the more transforming capacity increased, the larger area the cooling system required. There were aftereffects of environmental damage due to the oil leakage caused by a long use, and furthermore it was almost impossible to operate them according to the demand for electricity.

Technicians of the factory

solved such a technical problem and succeeded in developing a new type of transformer which can reduce manufacturing costs and materials and minimize power loss.

According to developers, the new transformer has 50-60 percent less no-load losses and 15-20 percent less short-circuit losses than the old one and its operation is safe for the scientific design of coil and insulating structure.

For such technical specifications, it can save more copper, silicon steel sheet, transformer oil and steel than the old one. It is said that its weight and volume have been reduced by 20-30 percent.

Its serviceable life has been increased more than two times as compared to the previous one and the failure rate has remarkably been decreased.

Now the factory is pushing ahead with the serial production of new-type transformers in parallel with a project for introducing the CNC technology into all machines and equipment.

By Choe Kwang Jin PT

CEMENT

Complex revs up production from the outset

The Sangwon Cement Complex is paving the way for increased cement production by making good equipment and technical preparations to ensure the full-capacity operation of all production processes from the outset after overfulfilling last year's economic quotas.

The complex keeps raising the informatization level of process management in line with the increased production plan while operating all the processes as required by technical and other standard regulations.

It produces more clinker than before by introducing a rational method for completing the repair of two kilns on a high qualitative level and ensuring their normal operation.

The sections in charge of supply of raw materials carry on the check-up of equipment in a qualitative way, strictly observe scientific and technical requirements in every process and carry on a brisk drive for increased production so as to increase the transport capacity of limestone.

While concentrating on ensuring the main production by enlisting every last internal reserve, the section in charge

of castings, jigs and equipment supplied enough machining parts needed for the repair of different facilities and pulverizing equipment as well and shortened repair time by applying advanced methods for the maintenance and reinforcement of calcinators, kilns and cooling processes.

The units in charge of raw materials and fuel, especially the Sangwon Limestone Mine, Samchong Mine and Hwachon Coal Mine, also register good results in production.

Technicians introduced advanced technical innovation plans into various production processes, including the industrialization of

desulphurizing process of castings based on dolomite.

Output increased 10 percent as compared to previously in such major production processes as baking and clinker, raw materials and fuel crushing and, particularly, the clinker crushing process exceeded its daily peak level.

"A good beginning makes a good ending. As we ensured the first production in the new year, we will build up production capacity, with the national-level construction projects underway on an extensive scale this year," said Choe In Chol, a workshop manager of the complex.

By Chae Hyang Ok PT



Packed cement rolls off the production line at the Sangwon Cement Complex.

ALLOY STEEL

Institute helps put alloy steel making on Juche basis

The Ferrous Metal Research Institute of the State Academy of Sciences directs great efforts to research for ensuring the Korean-style production of alloy steel.

"Our institute has opened a good prospect of producing a variety of alloy steels in a small quantity by dynamically pushing the construction of an alloy steel production base, and it will go a long way to strengthening the independence and Juche character of the metallurgical industry," said Kim Hyok, PhD and director of the institute.

The scientists who went to the Musan Mining Complex and the Kim Chaek Iron and Steel Complex developed and introduced new wear-resistant low alloy steels by relying on domestic alloy elements.

The Chollima Steel Complex, the Kumsong Tractor Factory and other units developed micro-alloy steel, which is suitable for the manufacture of rolling stock parts, with locally-available alloy elements and solved sci-tech problems arising in the establishment of a globular graphite cast iron production process based on pig iron from

oxygen blast furnaces. They also brought out a trial product of engine cylinder by applying the cutting-edge cold extrusion technique.

The scientists who were dispatched to the branch equipment factory of a power plant developed a stainless steel material conducive to remarkably increasing the serviceable life of turbine blade, set up its production process and introduced the success into other hydroelectric power stations.

The researchers of the institute supplied new seawater making mixers to various units on the basis of having added the stainless steel production process, which can ensure mechanical property and seawater resistance without using chrome and nickel, to the pilot plant. In addition, they manufactured dozens of closed-type water heaters and developed an electronic valve by using the powdered zinc penetration technology, which has made it possible to further consolidate the material and technical foundations of the public health sector.

By Kim Kum Myong PT

RESOLVE

Sci-tech to push economic growth

Members of the State Commission of Science and Technology are brimming with great confidence in fresh victories upon receipt of Supreme Leader Kim Jong Un's New Year Address.

Talented personnel, science and technology are our major strategic resources and weapons with which to take a great leap forward in socialist construction.

Juche Korea has produced epoch-making changes and miracles without the slightest vacillation in the face of unprecedented trials, and its notable successes are unthinkable apart from the Workers' Party's line of prioritizing science and technology.

In this year, the fourth year of implementing the five-year strategy for national economic development, the commission has designed major projects with an eye to solving scientific and technological problems arising in making a breakthrough in reenergizing the overall economy.

Especially, we will launch a powerful drive for research and creation to solve the problems arising in generalizing the heavy oil-free kindling technology of

Korean style to thermal power stations and in building large-scale hydropower stations, so as to ease power shortage and contribute to making a breakthrough in revitalizing the national economy.

We will concentrate on the research into core technologies of great practical and economic significance in coal, metal and chemical industries among other economic sectors, and thus produce notable research hits conducive to strengthening the independence and Juche-orientation of the economy and improving the people's living standards.

We have a high aim and a lot of work to do.

We will map out plans and provide guidance so as to encourage scientists and technicians to give full play to their burning enthusiasm in the practical efforts for implementing the Party policy of prioritizing science and technology and for providing a shortcut to the development of the independent economy.

Sung Kyong Chol,
director of the State
Commission of Science and
Technology

GARMENT

Clothing factory focuses on quality control

The Korea Chonwon Trading Company which specializes in the bonded processing of clothes has a clothing factory in Sunan District, Pyongyang.

The factory is widely known for timely carrying out bonded garment processing orders from all parts of the world on a high qualitative level.

"In order to keep up with the current trend of making garments multifunctional, we should technically be prepared to deal with newly added functions, otherwise we cannot find a niche in the world market," said Kim Ki Chil, chief engineer of

the factory.

Now it is busy producing a variety of rain-proofing garments including coat, padded clothes and jumper.

It properly conducts technical management and quality control over the processes of technical preparation, cutting, sewing and finishing.

Especially, the technical arrangement office is focusing on making good patterns on the basis of a correct understanding of samples and guidelines.

According to O Yong Ran, head of the office, the introduction of garment pattern-making



A clothing factory under the Korea Chonwon Trading Company turns out functional clothes.

technology based on computer and plotter has enabled them to make and modify any patterns without even 1 mm of deviation in dimensions in a short time, ensuring precise and scientific technical arrangements.

Timely technical arrangements for different orders boosted production.

The cutting workteam ensures the prompt and accurate preparation of cut fabrics by installing cloth cutters, number printers and freight elevator.

Sewing workteams fully satisfy technical requirements in garment processing to make their products attractive.

Sewers mastered the operation of rain-proofing belt sticking machine to adjust speed, pressure and temperature at their will.

They also applied various jigs to simplify production procedures and increase processing speed.

The factory's garments were highly appreciated at the national exhibition of consumer goods, the trade fair of Pyongyang Department Store No. 1 and other shows for their charming style, original curves and stereoscopic beauty of sewing lines.

By Jong Hwa Sun PT

FORESTRY

Sapling production gets more scientific and intensive

Mundok County in South Phyongan Province produces saplings by setting up a modern parent nursery with its own effort.

The county forestry management station built a 500-odd-square-metre vinyl sheet sapling greenhouse and a 250-square-metre plastic panel sapling greenhouse into which the food production cycle comprising a *Trichogramma evanescens* Westwood breeding ground and animal house has been introduced, as well as a wide area of open-air section for adapting saplings produced at the greenhouses to meet the greenhouse sapling production process, making it possible to produce more than five million saplings in a year through double production.

The plastic panel sapling greenhouse, in particular, is designed to monitor and control environment and nutrition in real time by dint of the integrated manufacturing system. It is a land- and labour-saving and intensive greenhouse in which a keeper can easily grow hundreds of thousands of saplings in a small area.

The irrigation facilities at the open-air adaptation section are planned to move on rails, and the automatic awning equipment adjusts light intensity by automatically removing sun screens and all operations are controlled by the integrated control system.

FOOTWEAR

Trainers maker honoured with medal of quality

The December 15 Medal of Quality, which is awarded to best local products, has recently been conferred on the trainers made by the Ryuwon Footwear Factory.

The factory is a modern, large-capacity shoe manufacturer that turns out a variety of trainers

The forestry management station rezoned more than ten hectares of fields of the tree nursery in standardized shapes and built a one hectare-wide outdoor cultivation ground and three round cutting beds to raise the intensive level of the overall sapling production a step higher as compared to previously.

It also carried out a plastic pipe-laying project to complete its gravitational irrigation system.

Especially, it installed a water examination device at the general water station for the measurement of pH of water and other indexes so as to ensure the real-time monitoring of the integrated manufacturing control system.

It created windbreak forests and planted trees along the roadside for landscaping.



Saplings grow healthily in the plastic panel sapling greenhouse in Mundok County, South Phyongan Province.

and shoes for special sports.

According to manageress Kim Yun Sil, it has increased the capacity of developing new products over ten times in recent years by putting the design of footwear on a scientific basis.

It has introduced a 3D CAD program and laser 3D foot

It set up a methane gas production facility at the general animal house in the form of vinyl sheet greenhouse and produced electricity with an electric generator which uses methane gas as fuel, thus producing greenhouse vegetables, pigs, chicken, rabbits and catfish while saving five tons of coal in a year.

"We'll improve the scientific level of sapling production and produce more good species of saplings at the tree nursery to carry out the tasks for the second-stage forest restoration campaign before the set time and turn all mountains in the county into 'gold and treasure mountains,'" said Ham Song Su, manager of the county forestry management station.

By Yun Kyong II PT



Some of the trainers made by the Ryuwon Footwear Factory.

modelling device to design and make shoes befitting Koreans and lower the norm of materials consumption per unit.

It holds a design show every month and introduces excellent designs into production.

As a result, over 670 designs have been created and some 440 kinds of shoes developed since 2015, with more than 210 of them put into mass production.

The factory put on show thousands of pairs of shoes in over 60 kinds at the National Footwear Exhibition 2018 which took place at Pyongyang Department Store No. 1, and many of them were highly praised there.

Among them are trainers for adults and children. The factory built up the wear and cold resistance of the sole of the adults' shoes using thermoplastic elastomer and ensured the stereoscopic decoration of the children's shoes by applying multicolour screen printing.

A technical innovation drive is underway at the factory to bring out new shoes for different ages, professions and seasons.

By Jong Chol PT

RESOLVE

More talented educators set to be trained

Last year the teaching staff and students of our university made great achievements in education, keeping in their heart the strategic slogan "Let us make a leap forward by dint of science and guarantee the future by dint of education!" set forth at the Third Plenary Meeting of the Seventh Central Committee of the Workers' Party of Korea.

The teaching staff developed a series of efficient teaching methods to meet the current trend of developing education and pedagogical requirements and generalized them across the country, and students who competed in the 27th World Memory Championships won seven gold medals and the International Grand Master of Memory, top award of the championships.

Supreme Leader Kim Jong Un said in his New Year Address that talented personnel, science and technology are our major strategic resources and weapons with which to bring about a great leap forward in socialist construction.

This year the university is faced with an important task to train more talented educational personnel who will shoulder the building of a socialist power.

We will build up the ranks of lecturers, upgrade teaching content in line with the world trend of developing education, and stage a drive involving all lecturers for developing modern educational means and new teaching methods.

We plan to develop the university into a research-oriented one in which education, scientific research and production are integrated to train more practice-oriented talents required by the times.

We will fulfil our mission and duty as a "pedigree farm" for the education of rising generations and an academic and information centre in order to increase the ranks of talented personnel for the building of a civilized power.

Prof Pyon Kyu Sun, PhD and president of Kim Hyong Jik University of Education

DEVICE

New face scanner proves accurate

The Cutting-edge Science Research Institute of Kim Il Sung University has recently developed a new face scanner.

The researchers worked on the cutting-edge face detection and recognition technology and applied it to develop a face scanner which is convenient for users and highly accurate.

The scanner, which was chosen as the top IT product in 2018, employs a high-speed face detection technology and high-accuracy recognition technology based on the depth learning technology which is studied worldwide.

It is designed to automatically analyse the personal information of objects by using face tracking and gender and age estimation technologies.

Based on the scanner, the research institute completed the access control system, moving personnel statistical system, face image search system and smart advertisement system.

The access control system automates the control of entrance and exit in institutions, enterprises and departments and controls and monitors the unknown persons by analysing the input image data sent from a camera.

The moving personnel statistical system helps work out a scientific service strategy

by making a statistical analysis of visitors to certain places like shops and department stores according to time, gender and age with the help of the face detection, recognition and tracking technology and the gender and age estimation technology.

The face image search system is a kind of program which searches the photo of a specific person among tens of millions of face image data at high speed by using the face detection and recognition technology, while the smart advertisement system plays back a presentation on suitable products for relevant viewers on the basis of automatic recognition of gender and age of viewers in order to promote the convenience of users in commodity services and maximize profitability in business activities.

These systems were introduced into Pyongyang International Airport and other units.

"The key factors in assessing the quality of the face scanner are its speed and accuracy," said key developer Ri Song Jun. "But it is no easy job to resolve two things at a time as they reject each other. We resolve this problem in our own way."

By Kim Rye Yong PT

PROFILE

Medical worker successful for a mix of skills and devotion

Recently the management of the Pyongyang Medical College Hospital of Kim Il Sung University received several letters of thanks to Jon Ju Yong (pictured), researcher at the spinal and infantile paralysis treatment institute, for his high medical knowledge and devotion to patients.

More impressive is that Jon, who is popular both with patients and colleagues, is not an experienced and aged scholar, but a young man.

He has just turned 30 this year. He began to work as a researcher in spinal correction treatment at the institute three years ago when it was established.

His father is a Koryo medical scientist, so he came to know the advantages of the traditional Korean medicine in his early years. As a college student, he attracted the attention of the medical circles as he found a prescription to prevent the damage of the mucous membrane of the small intestines with Koryo medicine.

He recently invented a new therapy for the treatment of osteoarthritis of the spine, which is known to be an incurable disease of high morbidity rate worldwide, shooting to fame as



THE PYONGYANG TIMES

a man of ability on a par with old scholars.

The new therapy, a mixture of Koryo medicinal prescription and spinal correction treatment, has become widely applicable as it raises treatment effects by far and shortens the treatment periods while replacing surgical operations by combining traditional poultice application and massaging.

It was not long ago when he contrived an automatically-controlled heat treatment device which guarantees the scientific accuracy of thermotherapy which is applied to the treatment of various kinds of backache, to be highly appreciated at the national sci-tech exhibition in the public health sector.

His high medical knowledge

no doubt produces better results as it is coupled with unusual humanity.

A disciple of Chon Un Ju, academician and an authority on Koryo medicine, Jon learnt from his teacher not only knowledge but also the philosophy that medicine is a benevolent art and a medical worker should infinitely love people.

In May last year he took charge of a patient with a crumpled left hand. It demanded a long time and devotion to cure the patient as he could not use a hand due to post-operation stiffness.

For well over a hundred days Jon attended to the patient, sometimes sitting all night at his bedside and devoting himself to the treatment to restore him to health.

The day when the patient left the hospital after recovering his health he said he would work hard for the socialist system, expressing gratitude to Jon and other young medical workers as well as the country's health system.

Jon is now putting his heart and soul into research and medical treatment to carry on the traditional medicine with an enterprising spirit of inquiry and a high sense of humanity.

By Jong Sun Bok PT

AMUSEMENT

Dolphinarium draws people with new stunts

People love to visit the Rungna Dolphinarium in Pyongyang, which is far from the sea, in order to see the stunts of dolphins.

In the new year, the director and trainers of the dolphinarium have created and staged a new performance involving the formation act of trainers and dolphins on the water surface, hitting of ball with the tail, casting of big ball high which demonstrates the power of the animal and the like.

The performance begins with the synchronized swimming humans perform in time with *Song of Good Haul in the Sea*, arousing the spectators' curiosity.

It is followed by the water-surface formation act of trainers and three dolphins of the Pyongyang squad in which they dance freely and dive into the water 6.5 metres deep and then jump up. Spectators can see the stunts on a large LED screen.

According to the instructions of trainers, dolphins perform various special feats including backward swimming, revolving

jump, continuous ball hitting, throwing of ball into the basket and answering of arithmetic problems, which are presented by any spectators, by using a sound counter.

Seals also act in the performance. They handle balls in various ways, do handstands, take thrown rings round the neck and play a volleyball match with a trainee as umpire.

The synchronized swimming executed by trainers represented as "mermaids" is another sight to behold in the show.

The dolphins of the Rungna squad hit balls simultaneously, cut their way through water like speedboats, swim with the tail in the standing position taking a ball in flippers and jump high up. The gig hots up as the animal performers and spectators respond to each other, shaking hands and pecking on the cheek. There is also a match of turning hoops.

"It is the first time I have come to see the performance here with my grandson," said Han Kwang Ok, who lives in Rangnang District, Pyongyang.

"I didn't know the performance was such a spectacle. I'll come here often to see the show."

"The 45-minute-long performance has finished in a wink as I have been so captivated by a variety of stunts by trainers and dolphins, beautiful synchronized swimming and lively music. I want to see it again," said Korean-Chinese Han Song Ok.

By Pang Un Ju PT

SONG YONG SOK / THE PYONGYANG TIMES
Dolphins perform stunts together with trainers at the Rungna Dolphinarium in Pyongyang.

EDUCATION

National sentiment develops through music education



CHAE MYONG RIM / THE PYONGYANG TIMES

Schoolchildren at Chilgol Primary School in Mangyongdae District, Pyongyang, polish up *kayagum* playing skills.

Chilgol Primary School in Mangyongdae District, Pyongyang, is famous for high-quality national music education.

Its pupils have won the national musical instrument division of the annual artistic individual contest of schoolchildren for 20 years.

In the last year's event, too, its pupil, Sin Yun Gyong, became the winner of *kayagum* (19-stringed Korean harp) solo though she was the youngest of dozens of competitors selected from across the country.

Teachers of the school ascribe the consecutive wins to Rim Jong Hwa, chief of the arts section.

Rim is a model teacher who has instructed the national musical instrument group of the school for nearly 30 years.

She was a *kayagum* player at a central art troupe in her maidenhood and later became music teacher of the school with a determination to train talented instrumentalists.

The unique sound of the national instrument and her distinctive playing techniques and graceful posture attracted the interest of schoolchildren, and the members of the national musical instrument group in her charge increased to dozens soon and young prodigies were produced in

succession, adding more to the pride of the school.

The school focuses on basic education, especially on the teaching of traditional beats, so as to make children have a good understanding of captivating Korean rhythms and embody them in performance.

It also promotes tutorial guidance so as to give free rein to the individuality of pupils and enable them to make the most of their characteristic features.

Therefore, the jury members of the annual contest lavish praise on the entrants from the school for the fascinating execution and high artistic levels, expecting their promising future.

"In the course of playing national musical instruments in national costume, pupils develop love for the traditional instruments and noble national sentiments," said Rim.

Their parents unanimously said that as they started to learn to play national instruments, they came to acquire moral traits and affection for national things.

Many *kayagum* players who finished the school are conducting artistic activities at central art troupes and other organizations, winning great popularity.

They often fondly remember their teacher who taught them the rudiments of music and their alma mater as well.

Pak Un Sim who was the first to win the contest for the school two decades ago is also a *kayagum* teacher at the school like her former teacher.

The hall of the national musical instrument group is small, but the unique resonant sound of such national instruments as *kayagum* and *janggo* (hourglass drum) implants the fine qualities and sentiment of the nation in the minds of pupils and makes them aware of its preciousness.

By Ri Sung Ik PT

REUNIFICATION

National independence leads to reunification

Supreme Leader Kim Jong Un said in his New Year Address that the surprising changes which took place in inter-Korean relations last year convinced all the fellow countrymen that when they join minds and efforts, they can turn the Korean peninsula into the true home of the nation, which is the most peaceful and will prosper forever.

Last year, north and south held three rounds of inter-Korean summit meetings and talks amid great expectations and interest of peoples at home and abroad, and this clearly showed that north-south relations entered a completely new stage. The Panmunjom Declaration, the September Pyongyang Joint Declaration and the north-south agreement in the military field were adopted as a virtual nonaggression declaration in which north and south have committed themselves to terminating fratricidal war based on force of arms.

Sportspersons of north and south jointly entered international competitions and artistes came and went to

Pyongyang and Seoul to fire the enthusiasm for national reconciliation and reunification. North and south also promoted cooperation projects in various fields including railways, road, forestry and public health while resolutely overcoming manifold obstacles and difficulties.

All the achievements made last year have proved that when north and south join hands firmly and rely on the united strength of the fellow countrymen, no external sanctions and pressure, challenges and trials will be able to hinder the Koreans in their efforts to open a broad avenue to national reunification and prosperity.

National independence is the lifeblood of the reunification movement that ensures improved north-south relations.

Inter-Korean fence-mending and reunification are, in all respects, an internal issue of the Korean nation that should be resolved by north and south.

It is needed to never tolerate the interference and intervention of outside forces who stand in the way of national reconciliation,

unity and reunification with the design to subordinate inter-Korean relations to their tastes and interests, and it is more important to hold fast to the principle of independence in solving the problem of reunification, or the problem of the nation.

It is none other than the Koreans who earnestly wish for reunification as they will have to live in a reunified country.

It is self-evident that foreign interference in the reunification issue will reduce the destiny of the nation to a plaything of outside forces and a victim of their fights.

Independence is precisely reunification, and it is the most important principle of and solution to reunification.

Today when all the nation's interest in and aspiration for reunification are growing unprecedentedly, north and south should actively try to find a peaceful reunification plan based on nationwide agreement and direct sincere efforts to this end.

By Song Jong Ho PT

MONETARY

US dollar loses ground as boycott sweeps the world

There has been a marked increase in the moves to get out of the control of the US dollar throughout the world.

Such a trend is growing in Europe. According to a Bulgarian internet news agency, the European Commission explores a plan to contain the dominant role of the US dollar by widening the scope of use of the euro. The plan reportedly includes the scaling up of the use of the euro in the strategic fields including energy, raw materials and production and manufacture of airplanes.

Such a move against the US dollar in Europe speaks volumes.

Most of European countries are the traditional allies of the US. They maintained close relations with it in the past by largely depending on it.

But their attitude has changed in recent years.

Because they were angry with the US' self-righteous behaviours such as the secession from the Paris agreement on climate change, unilateral imposition of additional tariffs on Europe-made products and forcing of undue military spending. Therefore, European countries claim regional independence. In this context they try to boycott the US dollar and enhance the euro's role.

The European Commission demands the member nations assure it that they would use the euro as the currency for settlement when they make energy contracts with other countries. At present, over 80 percent of the European Union's energy import is paid in dollars. Therefore, Europe is still under the control of the US dollar-led financial system.

Russia also takes an active part in the boycott against the dollar as part of its strategy to counter the US sanctions against it.

It now plans to do more business deals in the ruble and other currencies and to give preferential treatment to exporters that do not use the dollar during tax collection. And it does not rule out the possibility to give up the dollar in the oil trade settlement.

Russia sees it as a means of neutralizing US sanctions to get rid of dependence on the dollar.

The growing trade in national currencies in several countries weakens the dollar's dominance in the world financial system.

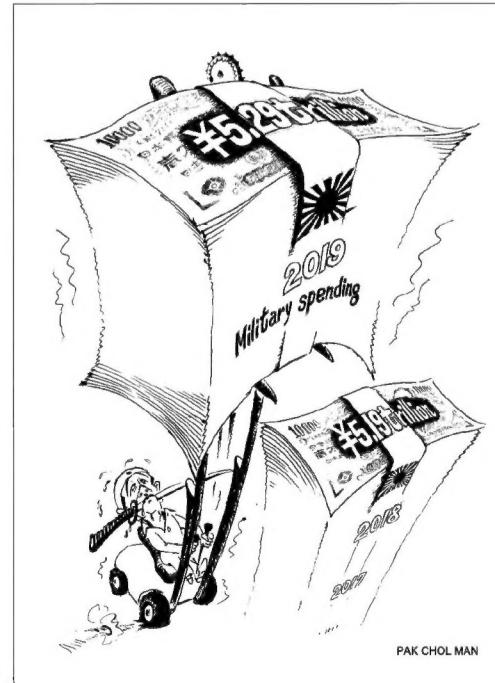
China and Russia have already encouraged the use of their currencies in business transactions. An economist at the commercial bank of the Netherlands said that the trade in the ruble and renminbi between

the two countries nearly doubled in four years and it continues to grow now.

The central banks of Eurasian economic union member nations reportedly study the formation of an integrated financial organization.

Such moves to boycott the dollar in different countries shake the long-standing US dollar-led international financial system.

By Choe Yong Nam PT



COMMENT

Needed: mutual respect, trust and action

Supreme Leader Kim Jong Un, in his New Year Address, said that the historic, first-ever DPRK-US summit meeting and talks brought about a dramatic turn in the bilateral relationship, which was the most hostile on the earth, and made a great contribution to ensuring peace and security of the Korean peninsula and the region, and that it is the invariable stand of the Workers' Party of Korea and the DPRK government and his firm will to establish a new bilateral relationship that meets the demand of the new century as clarified in the June 12 DPRK-US Joint Statement,

build a lasting and durable peace regime on the Korean peninsula and advance towards complete denuclearization.

The DPRK and the US were pitted against each other politically and militarily for well over half a century, and in the period they were on the brink of nuclear war several times.

Therefore, the two countries held a summit meeting and talks last year and adopted a joint statement to declare to the whole world that both sides commit themselves to establish new relations in accordance with the desire of the peoples of the two countries for peace and prosperity and will join efforts to build a lasting and stable peace regime on the peninsula.

The DPRK has no intention to keep up unsavoury past relations, but is ready to fix it as early as possible and work to

By Om Ryong PT

EUROPE

'Yellow Vest' protests widespread

A wave of demonstrations has engulfed European countries.

In mid-November last year, about 290 000 French people from across the country turned out in a protest action against the government's fuel tax hike.

An eye-catcher was that all the demonstrators wore yellow vests. So the demonstration was called the "yellow vest" demonstration.

The French government urged the demonstrators to be prudent, but the demonstration got fiercer, rather than being moderate. On December 16 last year, over 66 000 demonstrators took part in the fifth demo. The demonstration became violent with the passage of time and

forge a new relationship in line with the aspirations of the two peoples and the requirements of the developing times.

It declared at home and abroad that it would neither make and test nuclear weapons any longer nor use and proliferate them, and it has taken various practical measures.

If the US responds to the DPRK's proactive, prior efforts with trustworthy measures and corresponding practical actions, bilateral relations will develop wonderfully at a fast pace through the process of taking more definite and epochal measures.

But if it does not keep the promise it made in the eyes of the world, and out of miscalculation of the Korean people's patience, it attempts to unilaterally enforce something upon them and persists in imposing sanctions and pressure against them, the DPRK may be compelled to find a new way for defending national sovereignty and peace and stability of the Korean peninsula.

Dialogue partners will reach the destinations that are beneficial to each other without fail and obtain results which can be welcomed by the international community if they put forward fair proposals on the principle of recognizing and respecting each other by abandoning their dogged insistence and conduct negotiations with a proper stand and the will to settle issues.

By Om Ryong PT

many people were injured and detained.

It inflicted tremendous losses on France's overall economy, especially transport and service industry sectors.

The Yellow Vest demonstration spread to other European countries in no time like a domino effect.

In Poland hundreds of farmers in yellow vests seized control of a highway linking the east to the west of the country and demanded the government improve their living conditions.

Much upset by the appearance of Yellow Vest demonstrators, the Polish government dispatched its minister of Agriculture to negotiate with them.

The demonstration also extended to Belgium in which the European Union is headquartered.

The whole of Europe is in chaos as the demonstration is accompanied by violence unlike other protest actions in which demonstrators chant only slogans.

By Min Chol PT

SPORTING ACTIVITY

Civil servants observe first sports day of the year

A group running by officials of commissions, ministries and national agencies took place last Sunday, the first sports day of the new year.

Kim Il Sung Square was crowded with government employees.

After Ju Yong Gil, chairman of the Central Committee of the General Federation of Trade Unions of Korea, made a speech,

the officials began running, divided into two groups.

Officials of the State Planning Commission, the Ministry of Electric Power Industry, the Ministry of Coal Industry, the Ministry of Metallurgical Industry, the Ministry of Chemical Industry, the Ministry of Machine-building Industry, the Ministry of Agriculture, the Ministry of Fisheries and the

Ministry of Light Industry ran through the streets, with zeal to fulfill their responsibilities and duties as the leading personnel of the revolution.

In the wake of group running, there were demonstrations of the health-promoting Taekwon-Do and mass rhythmic exercise.

Meanwhile, diverse sporting events such as basketball, volleyball and table-tennis were held at industrial establishments in Pyongyang, including the Pyongyang Kim Jong Suk Textile Mill, the Pyongyang Thermal Power Complex and the Pyongyang Trolley Bus Factory.

Mass sports activities including group running of officials, working people and youth and schoolchildren took place in provinces, cities and counties to mark the day.

Compiled from KCNA



Civil servants do group running to mark the first sports day on January 13.

RELICS

Koguryo tomb murals still retain their colour

The oldest among the Korean pictorial relics, Koguryo tomb murals constitute the cream of Oriental paintings in view of lifelike character.

Koguryo tombs are spread widely on the shore of the Amnok River centring on Ji'an, Jilin Province, China, which was once the capital of Koguryo, and in the Taedong River basin around Pyongyang and some parts of South Hwanghae Province. Some 80 of them were discovered with mural paintings.

The murals offer a glimpse into the funeral custom of the Koguryo people who nicely built and decorated tombs.

The colours of the mural paintings are preserved intact to date even though thousands of years have passed.

Natural water paints were used to colour the murals.

Koguryo painters plastered tomb walls and drew things on them in a lifelike and vivid way by applying different colours before the plaster was dried, so as to preserve the vivid colours of portrayals.

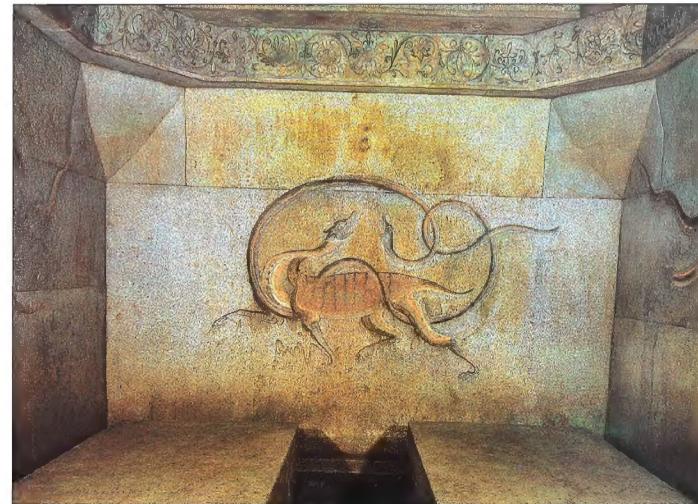
Such coloration had been refined throughout the middle ages, gradually developing into a national speciality and characteristic features of traditional coloured paintings.

Embodying diverse and rich content, bold idea, a wealth of pictorial language and high depiction skills, Koguryo tomb murals were the foundation of the medieval Korean pictorial art that enriched the treasury of

world culture.

UNESCO experts, who analysed the murals, admitted that they were represented finely in a very developed colouring method at that time and inscribed 63 Koguryo tombs such as the Mausoleum of King Tongmyong and the tombs in Tokhung-ri and Yaksu-ri on the list of the World Cultural Heritage sites in July 2004.

By Ri Myong Jun PT



The picture shows mythological turtle-serpent on the northern wall of a large tomb in Kangso.

ICH

Legend tells of Koryo general

The legend of Kang Kam Chan is a story about an illustrious general of Koryo, the first unified state in Korea which existed between 918 and 1392, who left an indelible mark in the history of the Korean nation against foreign invasion.

The legend of his outstanding character includes tales of his birth, his childhood, and his work as an officer of Hanyang and magistrate of Yangju.

According to the story of his birth in book *History of Koryo*, a big star called Mungok fell into a house to make the woman of the house give birth to a boy. He was Kang Kam Chan.

“Serving of bone as new year’s feast” is a typical legend praising his resourcefulness displayed during a war against foreign invasion.

It contains a historical fact that when the Kitan aggressors

invaded Kaegyong, Koryo’s capital, he employed field emptying tactics to make sure that even a grain of cereals and a drop of water were not left in the city so that the invaders could not help but gnaw bones the locals threw away.

He applied inundation tactics in Hunghwa camp by damming up a river with cowhide stitched with thick ropes and breaking the dam when the enemy’s vanguard detachment was crossing the river regarding it as a shallow one, thereby burying aggressors in water. And he used mobile warfare to annihilate invaders by moving ten thousand troops to various regions at a rapid speed.

The legend of Kang Kam Chan was put on the national ICH list in 2018.

By Jong Tang Song PT

FOLK FOOD

Steamed rice cake

Steamed rice cake is one of the national foods of Korea.

According to history books introducing the traditional foods of the Korean nation, the rice cake which is prepared by wetting rice flour with water and putting it into a steamer so as to make it done in the hot heat is called *solgo* (steamed rice cake).

Its recipe is as follows: mix rice and glutinous rice flours in the ratio of 2:1 to wet them properly with soft salty water and mix them evenly before passing them through a sieve of large meshes. And serve the food after boiling them in a steamer.

Unlike the rice cake made by pounding steamed rice or shaping dough for cakes, the steamed rice cake gives not only delicate flavour but also soft and bouncy feelings when chewing. So it gives a feeling similar to sponge cake, rather than rice cake.

Red bean, mung bean, sesame,



Steamed rice cake dressed with red bean flour.

chestnut, honey and others can be used as dressings for the steamed rice cake. The Koreans have liked to eat the rice cake and often used it on holidays or when they prepare first-birthday and wedding spreads.

The cake with no bean flour was called white steamed rice cake in a sense that its colour is as white as snow. So it was mainly used in ceremonies for children. This is said to reflect the parents’ wish for their children to grow healthily in physical and spiritual terms.

By Kim Ryong Jin PT

Ryonggang hot spring

Ryonggang Hot Spring in Onchon County of Nampho City has been well known for its treatment effect from olden times.

A natural monument of the country, the hot spring has a rich content of such minerals as bromine, iodine and radon. It has 24-26 grams of minerals per litre, the largest amount among the hot springs in the country.

The temperature of the hot spring with slight alkalinity is 48-53 degrees centigrade.

Compiled from KCNA

